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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
09/779,866	02/08/2001	James E. Pricer	9517	6672
26890	7590	07/14/2005	EXAMINER	
JAMES M. STOVER NCR CORPORATION 1700 SOUTH PATTERSON BLVD, WHQ4 DAYTON, OH 45479			TO, BAO TRAN N	
			ART UNIT	PAPER NUMBER
			2135	

DATE MAILED: 07/14/2005

Please find below and/or attached an Office communication concerning this application or proceeding.

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**BEFORE THE BOARD OF PATENT APPEALS
AND INTERFERENCES**

Application Number: 09/779,866

Filing Date: February 08, 2001

Appellant(s): PRICER, JAMES E.

HOWARD L. SPEIGHT
For Appellant

EXAMINER'S ANSWER

This is in response to the appeal brief filed April 20, 2005.

(1) *Real Party in Interest*

A statement identifying the real party in interest is contained in the brief.

(2) *Related Appeals and Interferences*

A statement identifying the related appeals and interferences which will directly affect or be directly affected by or have a bearing on the decision in the pending appeal is contained in the brief.

(3) *Status of Claims*

The statement of the status of the claims contained in the brief is correct.

(4) *Status of Amendments After Final*

The appellant's statement of the status of amendments after final rejection contained in the brief is correct.

(5) *Summary of Invention*

The summary of invention contained in the brief is correct.

(6) *Issues*

The appellant's statement of the issues in the brief is correct.

(7) *Grouping of Claims*

The rejection of claims 1-20, 22-24, 26 and 27 stand or fall together because appellant's brief does not include a statement that this grouping of claims does not stand or fall together and reasons in support thereof. See 37 CFR 1.192(c)(7).

(8) *ClaimsAppealed*

The copy of the appealed claims contained in the Appendix to the brief is correct.

(9) *Prior Art of Record*

6,430,539	Lazarus et al	05/06/99
5,974,396	Anderson et al	07/19/96
6,611,829	Tate et al	10/01/99

WO 00/20998

Miller et al

10/01/99

(10) *Grounds of Rejection*

The following ground(s) of rejection are applicable to the appealed claims:

Claim Rejections - 35 USC § 102

The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

A person shall be entitled to a patent unless-

(e) the invention was described in (1) an application for patent, published under section 122(b), by another filed in the United States before the invention by the applicant for patent or (2) a patent granted on an application for patent by another filed in the United States before the invention by the applicant for patent, except that an international application filed under the treaty defined in section 351 (a) shall have the effects for purposes of this subsection of an application filed in the United States only if the international application designated the United States and was published under Article 21(2) of such treaty in the English language.

3. Claims 1-4, 6, 14-20 and 22 are rejected under 35 U.S.C. 102(e) as being anticipated by US 6430539 issued to Lazarus et al (filed 5/6/99), herein referred to as Lazarus.

Referring to Claims 1 and 20:

Lazarus discloses a method for use in analyzing associations in the sequence of transactions, the method comprising: loading data from the transactions into a database system, where the data includes an entry for each transaction (col 10, lines 40-50) and the transactions are grouped into sessions (col 3, lines 25-35); ordering the transactions in sequence within each session (col 3, lines 28-33); and performing an analysis of the sessions of transactions to find associations in the sequence of the transactions in the sessions (col 4, lines 45-50; col 5, lines 15-25, 50-55).

Referring to Claim 2:

Lazarus discloses the limitations of Claim 1 above. Lazarus further discloses wherein the data for each transaction includes a time stamp related to a time that the transaction occurred (col 14, lines 30-35; Table 3) and wherein ordering the transactions comprises numbering the transactions based on the time stamps included in the data for the transactions (col 3, lines 2040).

Referring to Claim 3:

Lazarus discloses the limitations of Claim 2 above. Lazarus further discloses wherein numbering the transactions comprises numbering the transactions in sequence from the transaction having the earliest time stamp to the transaction having the latest time stamp (col 3, lines 30-40).

Referring to Claim 4:

Lazarus discloses the limitations of Claim 1 above. Lazarus further discloses wherein loading the data from the transactions into the database system comprises parsing the data for each transaction into fields in the database system (col 1 S, lines 20-50); and identifying one of the fields as a session identifier field where a session identifier for each transaction is stored (col 14, lines 59-60, Account id, pop id, Table 4).

Referring to Claim 6:

Lazarus discloses the limitations of Claim 1 above. Lazarus further discloses wherein performing the analysis comprises performing an affinity (relationship) analysis (col 4, lines 45-60; col 5, lines 15-25, 50-55).

Referring to Claim 14:

Lazarus discloses a method for use in analyzing associations in the order of transactions, the method comprising loading data from the transactions into a database system, where the data includes an entry for each transaction (col 14, lines 25-35; Table 3) and wherein loading the data comprises grouping the transactions into groups (col 15, lines 55-60); selecting sessions of transactions belonging to the same group and corresponding to a single session (col 3, lines 25-40); ordering the transactions in sequence within each session (col 3, lines 25-40); and performing an analysis of the sessions of transactions to find associations in the sequence of the transactions in the sessions (col 5, lines 15-25, 50-55).

Referring to Claim 15:

Lazarus discloses the limitations of Claim 14 above. Lazarus further discloses wherein each entry includes a time stamp related to a time that the transaction occurred and selecting comprises selecting entries with time stamps lying in a predetermined range (col 3, lines 25-50).

Referring to Claim 16:

Lazarus discloses the limitations of Claim 15 above. Lazarus further discloses wherein ordering comprises numbering the selected entries based on their respective time stamps (col 3, lines 20-40).

Referring to Claim 17:

Lazarus discloses the limitations of Claim 15 above. Lazarus further discloses wherein numbering comprises numbering the selected entries from the earliest to the latest (col 3, lines 30-40).

Referring to Claim 18:

Lazarus discloses the limitations of Claim 16 above. Lazarus further discloses wherein numbering comprises numbering the selected entries from the latest to the earliest (col 3, lines 30-40).

Referring to Claim 19:

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Lazarus discloses the limitations of Claim 16 above. Lazarus further discloses wherein numbering comprises numbering the selected entries based on their respective distance in time from a reference time (col 3, lines 25-50).

Referring to Claim 22:

Lazarus discloses the limitations of Claim 1 above. Lazarus further discloses where each entry includes a time stamp related to a time that the transaction occurred (col 14, lines 25-35, Table 3) and where, in selecting sessions, the computer selects entries with time stamps lying in a predetermined range (col 3, lines 25-45).

Claim Rejections - 35 USC § 103

The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negatived by the manner in which the invention was made.

4. Claim 5 is rejected under 35 U.S.C. 103(a) as being unpatentable over US 6430539 issued to Lazarus et al (filed 5/6/99), herein referred to as Lazarus further in view of US 5974396 issued to Anderson et al (filed 7/19/96), herein referred to as Anderson.

Referring to Claim 5:

Lazarus discloses the limitations of Claim 4 above. Lazarus does not explicitly disclose "wherein loading the data from the transactions into the database system further comprises identifying one of the fields as an item identifier field where an item identifier for each transaction is stored".

Anderson discloses wherein loading the data from the transactions into the database system further comprises identifying one of the fields as an item identifier field where an item identifier for each transaction is stored (col 10, lines 10-30).

At the time the invention was made, it would have been obvious to a person of ordinary skill in the art to modify Lazarus such that the master file database includes an item identifier for each transaction. One of ordinary skill in the art would have been motivated to do this because it would allow the system to query the database for a particular item/product cluster (col 10, lines 40-60).

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5. Claim 24 and 26 are rejected under 35 U.S.C. 103(a) as being unpatentable over US 6430539 issued to Lazarus et al (filed 5/6/99), herein referred to as Lazarus further in view of WO 00/20998 by Miller et al, herein referred to as Miller (filed 10/1/99).

Referring to Claim 24:

Lazarus discloses a database system for use in analyzing associations in the order of transactions, the database system comprising a parsing engine configured to parse transaction data and store the parsed transaction data in a table that is distributed across two or more data-storage facilities (col 10, lines 40-50); Fig 4), where the data includes an entry for each transaction and the transactions are grouped into sessions groups (col 3, lines 25-35; col 15, lines 55-60); a database-management component configured to operate on the table to order the transactions in sequence within each session (col 3, lines 28-33); and perform an analysis of the sessions of transactions to find associations in the sequence of the transactions in the sessions (col 4, lines 45-50; col 5, lines 15-25, 50-55).

Lazarus does not explicitly disclose "a massively parallel processing system comprising one or more nodes; a plurality of CPUs, each of the one or more nodes providing access to one or more CPUs; a plurality of virtual processes each of the one or more CPUs providing access to one or more virtual processes; each virtual process configured to manage data stored in one of a plurality of data-storage facilities".

Miller discloses a massively parallel processing system comprising one or more nodes (page 6, lines 5-15); a plurality of CPUs, each of the one or more nodes providing access to one or more CPUs (page 6, lines 10-15); a plurality of virtual processes each of the one or more CPUs providing access to one or more virtual processes (page 6, lines 15-25); each virtual process configured to manage data stored in one of a plurality of data-storage facilities (page 6, lines 10-25).

At the time the invention was made, it would have been obvious to a person of ordinary skill in the art to modify Lazarus such that the system operated in a parallel processing environment. One of ordinary skill in the art would have been motivated to do this because it would provide a mechanism that could significantly improve performance, efficiency and scalability of mining associations (Miller: page 9, lines 1-5).

Referring to Claim 26:

Lazarus in view of Miller discloses the limitations of Claim 24 above. Lazarus further discloses where each entry includes a time stamp related to a time that the transaction occurred (col 14, lines 25-35, Table 3) and where, in selecting sessions, the computer selects entries with time stamps lying in a predetermined range (col 3, lines 25-45).

6. Claims 7-13, 23, 27 are rejected under 35 U.S.C. 103(a) as being obvious over US 6430539 issued to Lazarus et al (filed 5/6/99), herein referred to as Lazarus in view of US 6611829 issued to Tate et al, herein referred to as Tate further in view of US 5806074 issued to Souder et al, herein referred to as Souder.

The applied reference (Tate) has a common assignee and inventor with the instant application. Based upon the earlier effective U.S. filing date of the reference, it constitutes prior art only under 35 U.S.C. 102(e). This rejection under 35 U.S.C. 103(a) might be overcome by:

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(1) a showing under 37 CFR 1.132 that any invention disclosed but not claimed in the reference was derived from the inventor of this application and is thus not an invention "by another"; (2) a showing of a date of invention for the claimed subject matter of the application which corresponds to subject matter disclosed but not claimed in the reference, prior to the effective U.S. filing date of the reference under 37 CFR 1.131; or (3) an oath or declaration under 37 CFR 1.130 stating that the application and reference are currently owned by the same party and that the inventor named in the application is the prior inventor under 35 U.S.C. 104, together with a terminal disclaimer in accordance with 37 CFR 1.321(c). For applications filed on or after November 29, 1999, this rejection might also be overcome by showing that the subject matter of the reference and the claimed invention were, at the time the invention was made, owned by the same person or subject to an obligation of assignment to the same person. See MPEP § 706.02(1)(1) and § 706.02(1)(2).

Referring to Claim 7, 23 and 27:

Lazarus discloses the limitations of Claim 1 above. Lazarus further discloses parsing the transaction data into fields in a base table in the database system (col 13, lines 5-10; Table 3; col 15, lines 50-55); identifying one of the fields as a session identifier field where a session identifier for each transaction is stored (Table 3, col 14, lines 25-30; Account id, pop id);

Lazarus does not explicitly disclose "identifying one of the fields as an item identifier field where an item identifier for each transaction is stored; ordering the transactions in each session of transactions in sequence comprises concatenating a sequence number to the item identifier for each transaction; performing the analysis comprises building one or more support tables for one or more item identifiers with concatenated order number; and calculating support, confidence and lift by joining the support tables.

Tate discloses loading data from the transactions into the database system comprises identifying one of the fields as an item identifier field where an item identifier for each transaction is stored (col 9, lines 10-15); performing the analysis comprises building one or more support tables for one or more item identifiers with concatenated order number; and calculating support, confidence and lift by joining the support tables (col 13, lines 15-23).

Lazarus in view of Tate does not explicitly disclose "ordering the transactions in each session of transactions in sequence comprises concatenating a sequence number to the item identifier for each transaction".

Souder disclose ordering the transactions in each session of transactions in sequence comprises concatenating a sequence number to the item identifier for each transaction (col 12, lines 35-45).

At the time the invention was made, it would have been obvious to a person of ordinary skill in the art to modify the teachings of Lazarus such an item identifier is stored and used to calculate support confidence and lift. One of ordinary skill in the art would have been motivated to do this because it would provide a data mining application that discovers relationships between items (Tate: col 3, lines 1-10).

At the time the invention was made, it would have been obvious to a person of ordinary skill in the art to modify the teachings of Lazarus in view of Tate such that ordering the transactions in sequence comprises concatenating a sequence number to the item identifier for each transaction. One of ordinary skill in the art would have been motivated to do this because it

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would ensure that duplicate transaction occurring at different points in time are accounted for. Furthermore, it would allow for each transaction to have a unique identifier (Souder col 12, lines 35-44).

Referring to Claim 8:

Lazarus and Tate in view of Souder disclose the limitation of Claim 7 above. Tate further discloses wherein building the one or more support tables comprises counting the transactions containing various combinations of item identifiers with concatenated sequence number and dividing the count by a total number of sessions to obtain a support for each of the combinations (col 9, lines 40-50).

Referring to Claim 9:

Lazarus and Tate in view of Souder disclose the limitation of Claim 7 above. Tate further discloses wherein building the one or more support tables comprises for each item identifier with concatenated sequence number, counting the transactions containing the same item identifier with concatenated sequence number and computing the support by dividing the count by a total number of sessions-groups and storing the item identifier with concatenated sequence order number and the support in a first support table (col 9, lines 45-60).

Referring to Claim 10:

Lazarus and Tate in view of Souder disclose the limitation of Claim 9 above. Tate further discloses wherein building the one or more support tables further comprises building a second base table by selecting transactions from the first base table that include an item identifier corresponding to an item identifier and concatenated sequence order number having a support more than a predetermined value (col 9, lines 50-60).

Referring to Claim 11:

Lazarus and Tate in view of Souder disclose the limitation of Claim 10 above. Tate further discloses wherein building the one or more support tables further comprises counting the transactions in the second base table containing various combinations of item identifiers with concatenated sequence number and dividing the count by a total number of sessions in the second base table to obtain a support for each of the combinations (col 9, lines 50-60).

Referring to Claim 12:

Lazarus and Tate in view of Souder disclose the limitation of Claim 10 above. Tate further discloses wherein building the one or more support tables further comprises counting the transactions in the second base table containing combinations of two specified item identifiers with concatenated sequence number and dividing the count by a total number of transactions in the second base table to obtain a support for each of the combinations; and storing the item identifiers and computed support in a two item support table (col 9, lines 50-60).

Referring to Claim 13:

Lazarus and Tate in view of Souder disclose the limitation of Claim 10 above. Tate further discloses wherein building the one or more support tables further comprises counting the

transactions in the second base table containing combinations of N specified item identifiers with concatenated sequence number and dividing the count by a total number of transactions in the second base table to obtain a support for each of the combinations; and storing the item identifiers and computed support in an N item support table (cot 9, lines 50-60).

(11) *Response to Argument*

Response to Appellant's traversal of the 35 USC 102 (e) rejection for claims 1-4, 6, 14-20 and 22:

Appellant failed to provide a statement of claims stand or fall together, as discussed above, thus, claim 1 is selected to represent this group.

A. Appellant stated that Lazarus does not discuss transactions that are grouped into sessions and also gave an example from the specification of US Patent Publication 2002/0143925. This US Pat. Pub. is listed on page 2 lines 4-7 in the present application.

Appellant cited the above US Pat. Pub. as a copending application, not incorporated by reference, thus, the content of this US Pat. Pub., i.e., "*After parsing the Web-log data extracting the desires information, the DBMS identifies all Web-log entries associated with a an individual user session (step 315). One the technique from doing so involves identifying all entries that list a single user-ID code and then selecting from these the entries with data-and-time stamps that differ by less than some prescribed amount*" is not a part of the specification of the present application. This content is not read into the appealed claims or used as to interpret the claimed limitations. Thus, the claimed transactions are grouped into sessions is not binding to interpretation as appellant proposed. Lazarus discloses a number of transactions in a time interval, or other sequence related criteria, which are read on to grouped into sessions. Therefore, Lazarus anticipates the grouping the transactions into sessions.

According to Lazarus, the analysis of consumer spending uses spending data and processes that data are identified co-occurrences of purchases within co-occurrence windows, which may be based on

either a number of transactions, a time interval, or other sequence related criteria, columns 3, lines 27-41. Thus, Lazarus teaches the ability to group transactions into a time interval, i.e., session. In addition, Lazarus teaches in col. 28, lines 35-47, that consumer transaction data is organized in groups of observations. Each observation is associated with a selected end-date, i.e., session. The end-date divides the observation into a prediction window and an input window. The input window includes a set of transactions in a defined past time interval prior to the selected end-date (e.g. 6 months prior). Thus, Lazarus anticipates the claimed loading data from the transactions into a database system, where the data includes an entry (identifying entries of spending data) for each transaction and the transactions are grouped into sessions (e.g. 6 months or 3 months).

B. The appellant stated that Lazarus does not disclose performing an analysis of the sequence of transaction to find association in the sequence of transaction in the session as recited in claim 1, 14, and 20.

According to Lazarus in column 3, lines 27-41, the transactions are grouped into the time interval sessions or other grouping parameters. Lazarus also discloses that learning the relationships between merchants in transaction data, and defining vectors, which represent the merchants. Identifies and captures the patterns of spending behavior (sequence of transaction data) is defined, col. 5, lines 15-25. For example, a new mother will likely shop at children's clothes, toy stores and others similar merchants, whereas a single young male will likely not shop at these types of merchant (col. 5, lines 31-35). In addition, Lazarus teaches that the co-occurrence windows (a number of transactions) are used to derive measures of how closely related any two merchants are based on their frequencies of co-occurrence of each other, col. 10, lines 51-64. Thus, this implies that the association of spending data in Lazarus is analyzed to find the co-occurrence buying pattern to predict further course of action, which is

benefit to the merchant advertising processes. Therefore, Lazarus teaches the claimed limitation of "performing an analysis of the sessions of transaction to find association in the sequence of the transaction in the sessions".

Response to Appellant's traversal on dependent claims 2-13, 15-19, 21-23 (appellant mistakenly indicated as 21-24) and 27:

Since all claims are stand or fall together, the above discussion meets the claimed limitations in the representing claim 1.

For the above reasons, it is believed that the rejections should be sustained.

Respectfully submitted,



Bao Tran To
July 11, 2005

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